

The invention claimed is:

1. An optical head comprising:

a single laser source of beams at an input end and image

forming beams at an output end; and

a plurality of optical components along said beams between the input and output ends to obtain an image on a photosensitive printing plate from the beams, wherein the optical components include reflecting surfaces adapted to fold the beams a plurality of times between the input and output ends such that the folded beams are located in a plurality of parallel surfaces perpendicular to the image formed on the photosensitive printing plate.

2. The optical head of Claim 1, wherein the laser source comprises a laser bar or a laser diode having a plurality of emitters.

3. The optical head of Claim 1, further comprising a modulator cooperatively arranged with the laser source to produce an image.

4. The optical head of Claim 1, further comprising a total internal reflection modulator.

5. The optical head of Claim 1, further comprising a modulator having one or more drivers.

6. The optical head of Claim 5, wherein the modulator drivers are directly attached to a crystal of the modulator.

7. The optical head of Claim 6, wherein the crystal is a total reflection crystal having at least one prismatic edge adapted to deviate the beams by 90 degrees.

8. The optical head of Claim 1, further comprising an optical mixer adapted to equalize the beams from the laser source.

9. The optical head of Claim 1, wherein the optical components further comprise a first optical arrangement adapted to shape and direct the beams from the laser source to an optical mixer.

10. The optical head of Claim 9, wherein the first optical arrangement comprises a first lens, a second lens a third lens, a half-wave blade and a polarizing mirror

11. The optical head of Claim 1, further comprising a first group of reflecting surfaces adapted to fold the beams from the laser source such that the size of the optical head can be reduced.

12. The optical head of Claim 1, wherein the optical components further comprise a second optical arrangement adapted to focalize and direct the beams from the laser source emerging from an optical mixer to a modulator.

13. The optical head of Claim 1, further comprising a second group of reflecting surfaces adapted to fold the beams from the laser source such that the size of the optical head can be reduced.

14. The optical head of Claim 1, further comprising a stop element adapted to eliminate the beams from the laser source of a higher diffraction order.

15. The optical head of Claim 1 further comprising a lens adapted to focalize the beams from the laser source emerging from a modulator to a stop element.

16. The optical head of Claim 1, further comprising an imaging objective assembly adapted to focus the beams from the laser source emerging from a stop element onto the photosensitive printing plate such that an image is formed on the photosensitive printing plate.

17. The optical head of Claim 1, further comprising a spherical lens and a stop element, wherein the height of the image can be adjusted by changing the distance between the spherical lens and the stop element.

18. The optical head of Claim 1, wherein the optical components are located in substantially the same plane.

19. The optical head of Claim 1, wherein the optical head is adapted to produce 256 pixels of imagewise laser light

20. The optical head of Claim 1, wherein the optical head is adapted to project an image of the active zone of the modulator containing a plurality of pixels.

21. The optical head of Claim 1, wherein the optical head is adapted to receive a signal to time the projection of the image.

22. The optical head of Claim 1, wherein the optical head further comprises a lens to adjust the spatial position of the image from the beams.

23. The optical head of Claim 1, wherein the optical head further comprises a lens to adjust the orientation of the image from the beams.

24. The optical head of Claim 1, wherein the optical head further comprises a lens to adjust the intensity of the image from the beams.